

rees are extremely important in our cities, towns, and neighborhoods. They comprise our urban forest and offer Indiana residents a multitude of benefits.



Trees:

- Provide shade and cooling in the summer
- Slow winter winds
- Screen unsightly views
- Provide oxygen
- Clean our air
- Reduce noise
- Increase property values

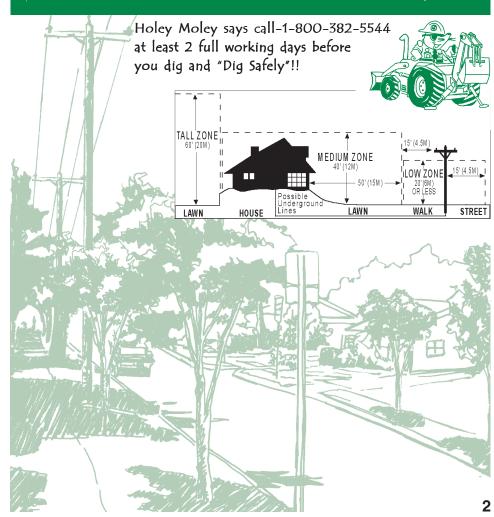
Plan Before You Plant

Before a tree is planted in the urban landscape, the project needs to be planned with care. Tree planters in cities and towns need to always determine whether the planting site is on public property. (If it is, a permit may be needed to plant since a public tree ordinance may be in effect. There may also be a city forester available to help select the right tree for the right place.)

Technical information is needed for cities, towns, non-profits, and tree boards to determine what tree is best suited for a particular site. This guide can help. While it is not an all inclusive list, it will help users. It will also help planters select the right tree for the right place.

RIGHT TREE RIGHT PLACE CONSIDERATIONS

- Look up, down, all around, above and below ground! What utilities, structures, signs, and other infrastructure are present?
- How large is the planting area? What size tree will fit there-WHEN IT GROWS UP?
- *Consider mature height and width.
- If any utilities are present, consult the utility. What trees do they recommend for planting in the utility easement?
- *Consider the trees' function. Is it for shade, screen or buffer?
- ₩What moisture, light, and air pollution issues are in the area?
- ➡What is the soil like? Will it accommodate trees and plants?



Users Guide

Definitions

Balled and Burlapped A tree dug out of the ground with

a ball of soil around the roots. The soil ball is usually covered with burlap and wrapped with string or wire baskets for support.

A tree duq out of a loose growing Bare-root

medium with no soil around the roots.

Some trees are sold as bare-root.

A fleshy fruit, with one to many seeds; Berry

developed from a single ovary.

Characteristic Traits or qualities of a tree, such as its leaf color,

flowers, fruit, shape, size, structure, etc.

City Forester This person employed by the community is also

called urban forester, city arborist, beautification manager etc. They are in charge of managing the trees in the community and implementing the urban forestry program usually with a volunteer,

advisory committee called a tree board or

commission.

A tree that has more than Clump Form

one trunk.

Conifer A cone-bearing tree or

shrub, often evergreen, usually with needle-like

leaves.

Container-grown A tree raised in a pot that is removed before

planting. Many are sold by nurseries in this

(potted) form.

Cultivar A variety of plant that is grown for its specific

characteristics that may not be present with the

original species.

Deciduous A tree that drops its leaves every

year.

A portion of land where utilities Easement

are located that can be publicly

or privately owned.

Evergreen A tree that retains green leaves throughout the

year.

A tree species that has been imported from Exotic Species

another region and does not grow naturally in the

region it is being planted.

The leaves of a tree. Foliage

The fully developed ovary of a Fruit

flower containing one or more

seeds.

Habit The characteristic growth form or general shape of

a plant.

Hardiness Zone Used to indicate geographic limits of cold

hardiness.

5A □ -15 to -20

-10 to -15

-5 to -10

Indiana Hardiness Zones





Hybrid	The offspring of two parent trees belonging to different species, subspecies, genera, or clones.	Street Tree	Trees growing in the public street right-of-way that is usually owned by a town or city.
Maturity	The point of being fully grown and reaching the potential height and width.	Structure	An item that could hinder the proper growth of a tree such as a
Native Species	A tree species that grows naturally in the region that it is being planted.		building, manholes, utility poles, utility meters, hydrants, catch-basins, stop signs etc.
Nut	A hard, bony, one-celled fruit that does not split, such as an acorn.	Tree lawn	The space where street trees are planted, usually in the public-right-of-way and between the street
Ordinance, Tree	An enforceable tool for the city that mandates proper tree care, gives force and direction to		and sidewalk.
	professional tree care performed by anyone in the community on public trees, and gives size and placement planting requirements for small, medium, and large trees to enhance, preserve, and protect the health of the urban forest.	Tree	A deciduous or coniferous woody plant that is characteristically more than twelve (12) feet in height when it reaches maturity and has fewer than six (6) main stems and most often one main stem.
Public Right-of-Way	y Area between private property line and the street owned by a town or city.	Tree, large	A tree that can attain a mature height of over 40 feet at maturity.
Root	The underground portion of a tree that serves to anchor and absorb water and minerals from the soil.	Tree, medium	A tree that can attain a mature height of 25 to 40 feet at maturity.
Seed	A fertilized, ripened ovule, almost always covered with a protective coating and contained in a fruit.	Tree, small	A tree that can attain a mature height of less than 25 feet at maturity. Only small trees should
Semi-evergreen	A plant that retains at least some green foliage well into winter.	Vtilities	be planted under power lines. A public service line such as gas, MEDIUM
Shrub	A woody, perennial plant, smaller than a tree, usually with several stems or trunks. Some can be grown as small trees if pruned properly.	Othics	electric, sewer and phone. These lines can be above ground and/or below ground.
Site	The location where the tree will be planted.	Variety	A population of trees differing slightly but consistently from the
Species	A population of plants or animals whose members reproduce by breeding with each other.		typical form of the species and occurring naturally. More loosely applied to forms produced in
Specimen	A tree placed conspicuously alone in a prominent place to show off its ornamental qualities.	Woody Plants	cultivation. Plants that have hard rather than fleshy stems and
5	•		produce buds that survive above ground in winter.

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40 ft. and greater	Genus	Species	Common name	1	2	3	4	5	6	7	8	9	10	11	
LARGE TREES															T,
	Acer	nigrum	Black Maple	Υ	all	N	N	N	N	Υ	N	Υ	N	Υ	
MADLE	Acer	rubrum	Red Maple	Υ	all	N	Υ	N	N	Υ	Υ	Υ	N	Υ	Y۶
MAPLE	Acer	saccharum	Sugar Maple	Υ	all	Ν	N	N	N	Υ	Υ	Υ	N	Υ	Ν
	Acer	x freemanii	Freeman Maple	N	all	Υ	Υ	Υ	N	Υ	Υ	Υ	N	Υ	
	Aesculus	hippocastanum	Horse Chestnut	Υ	all	M	M	M	Υ	M	Υ	Υ	Υ	Υ	M
CHESTNUT	Aesculus	glabra	Ohio Buckeye	Υ	all	M	M	M	Υ	M	Υ	Υ	Υ	Υ	Α
(I	Aesculus	x carnea	Red Horse Chestnut	N	C-S		Υ	Υ	Υ	N	Υ	Υ	Υ	Υ	C
ALDER	Alnus	glutinosa	Black Alder	N	all	N	Υ	N	Υ	Υ	Υ	Υ	N	N	
BIRCH	Betula	nigra	River Birch	Υ	all	N	Υ	M	N	M	Υ	Υ	N	Υ	F≈
(1	Carya	cordiformis	Bitternut Hickory	Υ	all	M	М	M	N	N	N	Υ	N	Υ	
\	Carya	glabra	Pignut Hickory	Υ	all	Υ	M	M	N	N	N	Υ	N	Υ	4
HICKORY	Carya	laciniosa	Shellbark Hickory	Y	all	Υ	Υ	М	N	N	N	Υ	N	Υ	
//	Carya	ovata	Shagbark Hickory	Y	all	Υ	M	M	N	N	N	Υ	N	Υ	4
У	Carya	tomentosa	Mockernut Hickory	Y	all	M	M	М	N	N	N	Υ	N	Υ	
HACKBERRY	Celtis	laevigata	Sugar Hackberry	N	C-S		Y	N	N	Y	Y	Y	N	Y	4
TIAGREE THIT	Celtis	occidentalis	Common Hackberry	Y	all	Y	Y	N	N	Y	Y	Y	N	Υ	
BEECH)	Fagus	grandifolia	American Beech	Y	all	N	N	N	N	N	N	Y	N	Y	4
)	Fagus	sylvatica	European Beech White Ash	N	all	N	N	N	N	M	Y	Y	N	Y	
()	Fraxinus Fraxinus	americana excelsior	European Ash	Y N	all all	Y M	M M	Y	Y	M Y	Y	Y	N N	Y	4
*ASH	Fraxinus	pennsylvanica	Green Ash	Y	all	M	M	M	Y	Y	V	Y	N	Y	
- (Fraxinus	quandrangulata	Blue Ash	Y	all	M	M	M	Y	Y	N	Y	N	Y	4
(female fruits-messy/smells bad)GINKGO	Ginkgo	biloba	Ginkgo	N	all	Y	M	M	N	M	V	Y-F	N	Y	
HONEYLOCUST	Gleditsia	triacanthos	Honeylocust	Y	all	Ÿ	Y	Y	Y	Y	Ÿ	Y	N	Ÿ	1
KENTUCKY COFFEE	Gymnocladus	dioicus	Kentucky Coffee Tree	Y	all	Y	M	M	N	M	N	Y-F		Y	
SWEETGUM	Liquidambar	styraciflura	Sweetgum	Ý	C-S		Y	M	Ň	M	Y	Ϋ́	N	Y	La
(state tree)TULIP	Liriodendron	tulipifera	Tulip Tree	Y	all	M	M	N	Y	M	Ň	Y	Y	Ÿ	
(State tree) I OLIP	Metasequoia	glyptostroboides	Dawn Redwood	Ň	all	M	N	Ň	Ň	M	Y	Ý	Ň	Ý	
BLACK GUM	Nyssa	sylvatica	Black Gum	Y	all	Υ	Υ	Υ	Υ	N	N	Y	N	Y	dl '
SYCAMORE	Platanus	occidentalis	Sycamore	Y	all	Υ	Υ	Υ	Υ	Υ	N	Υ	N	Υ	•
PLANETREE 2	Platanus	x acerifolia	London Planetree	N	all	Υ	Υ	Υ	Υ	Υ	Υ	Υ	N	N	11 -
FLANEINEL	Quercus	acutissima	Sawtooth Oak	N	all	Υ	М	М	N	М	Ν	Υ	N	N	11 -
()	Quercus	alba	White Oak	Υ	all	M	N	Υ	N	M	Ν	Υ	N	Υ	11 -
\	Quercus	bicolor	Swamp White Oak	Υ	all	M	Υ	M	Ν	M	Ν	Υ	Ν	Υ	
OAK	Quercus	imbricaria	Shingle Oak	Υ	all	Υ	Υ	M	M	M	N	Υ	N	N	
OAK)	Quercus	macrocarpa	Bur Oak	Υ	all	Υ	M	M	Ν	M	Ν	Υ	Ν	Ν	\parallel
/1	Quercus	robur	English Oak	N	all	M	М	Υ	N	M	Υ	Υ	N	N	41 .
()	Quercus	rubra (borealis)	Nothern Red Oak	Υ	all	M	N	Υ	Υ	Υ	N	Υ	N	Υ	Ш.
N N	Quercus	shumardii	Schumard Oak	Υ	all	Υ	M	M	N	M	N	Υ	N	Υ	۱ ـ ۱
CYPRESS	Taxodium	distichum	Bald Cypress	Y	all	N	Υ	Υ	N	M	Υ	Υ	N	Υ	
(1	Tilia	cordata	Littleleaf Linden	N		M	M	N	Υ	Y	Υ	Υ	N	Υ	41 '
LINDEN	Tilia	tomentosa	Silver Linden	N	all	М	М	М	Υ	Y	Υ	Υ	N	Y	JI - 3
	Tilia	x euchiora	Crimean Linden	N		M	M	N	Y	Y	Y	Y	N	N	•
ZELKOVA	Zelkova	serrata	Japanese Zelkova	N	all	М	Υ	M	N	M	Υ	N	N	Υ	네 .

^{*} Due to Emerald Ash Borer threat, limit plantings.

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TABLE KEY:

Y=yes N=no M=Moderate tolerance All=all regions C/S=Central to South F=female

Large Tree Tips

- Grow to be over 40 feet at maturity.
- Recommended for streets with no overhead restrictions and with tree lawns 4-6 ft. or more in width.
- Recommended for large areas such as parks, school yards, homeowner yards.
- Plant at least 1/2 the mature height of the tree from structures.
- DO NOT PLANT UNDER OR NEAR POWER LINES.

7

	Indiana Community Tree Selection Guide								
25 - 40 ft.	Genus	Species	Common name						
MEDIUM TREES									
MAPLE	Acer Acer Acer	campestre maximowiczianum triflorum	Hedge Maple Nikko Maple Three-Flowered Map						
SERVICEBERRY	Amelanchier	species	Serviceberry						
HORNBEAM	Carpinus Carpinus	betulus caroliniana	European Hornbeam American Hornbeam						
KATSURA YELLOWWOOD	Cercidiphyllum Cladrastis	japonicum kentukea (lutea)	Katsura Tree Yellowwood						
FILBERT	Corylus Crataegus	colurna crus-galli	Turkish Filbert Cockspur Hawthorn						
HAWTHORN	Crataegus Crataegus	phaenopyrum viridis	Washington Hawthorn Winter King Green Hawtho						
RUBBER	Eucommia	ulmoides	Hardy Rubber Tree						
MAACKIA	Maackia	amurensis	Amur Maackia						

species

virginiana

amurense

calleryana

x ambigua

Magnolia

Hop Hornbeam

Amur Corktree

Purple Robe Locust

Callery Pear

Magnolia

Phellodendron

Ostrya

Pyrus

Robinia

MAGNOLIA

HORNBEAM

CORKTREE

PEAR

LOCUST

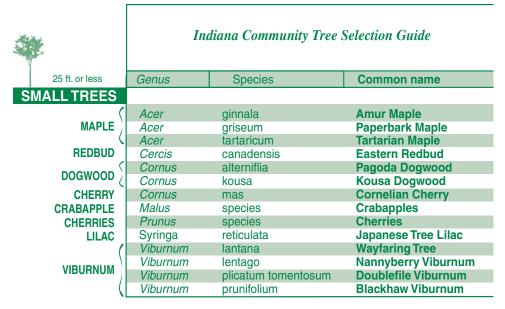
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1	2	3	4	5	6	7	8	9	10	11
N	all	Υ	M	Υ	M	Υ	Υ	Υ	N	Υ
N	all	Υ	M	Υ	Ν	Υ	Ν	Υ	N	Υ
N	all	N	N	M	N	Υ	N	Υ	N	Υ
Υ	all	Ν	M	N	Υ	Ν	Υ	Υ	Υ	Υ
N	all	M	M	M	N	M	Υ	Υ	N	Υ
Υ	all	Ν	Υ	Ν	Ν	Ν	Ν	Υ	Ν	Υ
N	all	N	Υ	N	M	N	N	Υ	N	Υ
Υ	C-S	M	M	Ν	Ν	Υ	Ν	Υ	Υ	Υ
N	all	Υ	M	N	N	N	N	Υ	N	Υ
Υ	all	Υ	Ν	Ν	Υ	Υ	Υ	Υ	Υ	Υ
Υ	all	Υ	M	N	Υ	Υ	Υ	Υ	Υ	Υ
Υ	all	Υ	M	Ν	Υ	Υ	Υ	Υ	Υ	Υ
N	C-S	Υ	Ν	M	N	Υ	N	N	N	N
N	all	Υ	Ν	Ν	Ν	Υ	Ν	Υ	Ν	Υ
N	all	M	M	N	M	M	Υ	Υ	Υ	Υ
Υ	all	Υ	Υ	Ν	Ν	Ν	Ν	Υ	Ν	Υ
N	C-S	M	M	M	N	N	Υ	Υ	N	Υ
N	all	Υ	Ν	M	M	Υ	Υ	Υ	Υ	Υ
N	all	М	N	Υ	Υ	Υ	Υ	Υ	Υ	Υ

TABLE KEY:

Y=yes N=no M=Moderate tolerance All=all regions C/S=Central to South F=female

Medium Tree Tips

- Grow to be a 25-40 foot tree at maturity.
- Check for mature size before planting near utility lines.
- Recommended for areas around the home, yard and with tree lawns that are 4 ft. or greater.
- Plant at least 25-35 feet away from structures.



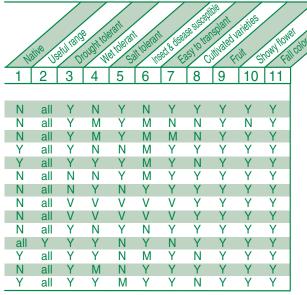


TABLE KEY:

Y=yes N=no M=Moderate tolerance All=all regions C/S=Central to South F=female V=varies with cultivar

Small Tree Tips

- Generally can be planted under and near power lines.
- Check mature height and spread before planting.
- Recommended for lawn widths 3 ft. or greater.

9

Tree Characteristics

All trees have certain characteristics that enable them to thrive in the right site. The following characteristics are listed in the key and the user can determine what tree will fit into the chosen site based on these characteristics.

Native

A tree species that grows naturally in the region that it is being planted.

Useful range

When selecting a tree to plant, consider the different climates in Indiana. Northern regions normally have colder winters than southern regions which can affect tree survival. Certain trees may be better suited for planting in one climate over another. The State of Indiana has been divided into three regions: North, Central, and South.

Drought tolerant

A drought tolerant selection may need to be considered when a site lacks sufficient water where heat stress may occur. Examples would be an open sunny location, parking lot or a street.

Wet tolerant

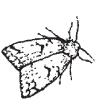
A wet tolerant tree selection may need to be considered when a site will have excessive moisture present. An example would be an area that floods or holds excessive soil moisture. A site with high clay soil may retain excessive water.

Salt tolerant

Salt tolerant trees may be needed when planted in locations where there is exposure to road salt spray or run off. Examples include areas along major thoroughfares, along salted sidewalks, and in parking lots.

Insect and disease prone

Insects and diseases can affect almost every tree. Most trees have specific problems, however, these may vary across different regions of the state. Severity of problems may change greatly from year to year. Tree selection should be made from disease resistant species in your area.



Easy to transplant

Certain species are easier to transplant than others. Transplanting time can also affect tree survival. Certain trees are best transplanted in spring because of slow recovery time after planting. The majority of the trees are best planted in the fall.

Cultivars

A named plant selection from which identical or near - identical plants can be produced through vegetative reproduction or cloning. They are often superior in quality.

Fruit or Seed

Tree fruiting may be considered a positive or negative. Positives can be fruit shape and color and the attraction of birds and other wildlife. Negatives are large falling fruit that causes excessive ground litter.

Showy flowers

All trees flower, however, some are more conspicuous than others. Typically, ornamental trees are selected for their showy flowers. Most ornamental trees are in bloom for one to three weeks starting in early spring while others begin blooming in early summer.



Site

The location where the tree will be planted.

Fall color

Fall leaf color can create interesting views. Different types of trees can create a color collage of yellow, red, orange, and purple. This may be a consideration in the design of a landscape.

References & Recommended Publications

Several references were used in compiling this guide. They are excellent tools for anyone who wants to plant trees. They are available in most bookstores and from the International Society of Arboriculture website.

Landscape Tree Factsheets, Including Evergreens for Screens – Gerhold, Lacasse, Wandell

Manual of Woody Landscape Plants - Michael Dirr

Plants for North America - Harrison Flint

Trees & Shrub Handbook, Selection-Care-Pests-Diseases -Morton Arboretum

Trees for Urban and Suburban Landscapes - Edward Gilman

Trees of Indiana - Charles Deam

Websites

There are many websites that offer tips on tree selection, identification, planting and care.

Indiana DNR, Division of Forestry; http://www.in/gov/dnr/forestry International Society of Arboriculture; http://www.treesaregood.com National Arbor Day Foundation; http://arborday.org Tree Link; treelink.org

Purdue University; http://www.fnr.purdue.edu/PubsOnLine/ USDA Forest Service, Northeast Area; http://www.na.fs.fed.us/spfo/ fth_pub.html

USFS; Plants Database. http://plants.usda.gov/index.html

This guide was made possible by funding provided by the USDA Forest Service, Northeast Area, IDNR, Division of Forestry - Community & Urban Forestry, and the Indiana Urban Forest Council, Inc.

For Technical Support Contact:

- IDNR, Community & Urban Forestry, 317-915-9390; inurbfor@indy.net
- City Forester-may be available in your community. Contact your municipality to check.
- ✓ Indiana Urban Forest Council, 765-608-1941
- Purdue University Cooperative Extension Service-in your county, www.ces.purdue.edu/1-888-398-4636
- Soil and Water Conservation District (SWCD)-in your county Electric Utility-Indiana's major utilities have foresters who can advise regarding tree planting under power lines.

For additional information, contact IDNR, Community & Urban Forestry at 317–915–9390, urban forestry@dnr.IN.qov, or the Indiana Urban Forest Council, Inc. at 765–608–1941; naiufc@insightbb.com

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Indiana City Foresters

Anderson	765-648-6853	Lafayette	765-807-1383
Bloomingto	on 812-349-3716	LaPorte	219-362-8220
Carmel	317-571-2478	Madison	812-265-8308
Columbus	812-375-2742	Mishawaka	574-258-1664
Decatur	260-724-2520	Muncie	765-747-4847
Elkhart	574-295-7517	Noblesville	317-776-6348
Evansville	812-475-1426	South Bend	574-299-4783
Ft. Wayne	260-427-6403	Syracuse	574-457-3440
Gary	219-939-2561	Terre Haute	812-232-2727
Indianapolis	317-327-7094	W. Lafayette	2 765-775-5110

State Urban Forestry Coordinator 317-915-9390